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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,205	01/04/2005	Toru Ikuta	2224-0236PUS1	7719

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EXAMINER	
FIGUEROA, JOHN J	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
04/22/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/520,205	IKUTA ET AL.	
	Examiner	Art Unit	
	John J. Figueroa	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/04/2005; 8/14/2006 &7/27/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 7-24 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 710 701 A1 to Johnson, hereinafter 'Johnson' (cited by Applicant in IDS).

Johnson discloses a dispersive composition comprising a continuous phase of a polyolefin resin and a dispersed phase that comprises a vulcanized rubber in a resultant dispersion (composite dispersion); wherein the blend of ground vulcanized rubber and the resin incorporating a functionalized olefin polymer provides blends containing high proportions of ground vulcanized rubber, and wherein the melt processability of these compositions provides shaped articles of these compositions to be molded therefrom without time consuming cure steps that required with conventional rubbers. (Page 2, lines 40-49) Particularly, Johnson discloses enhanced compatibilized polymer blends comprising ground vulcanized rubber in the form of small dispersed particles (1.5 mm number average or below) (b) polyolefin resin and/or (c) functionalized olefin polymer, wherein the blend can further contain additives such as fillers, pigments,

reinforcements, stabilizers, processing aids, colorants, plasticizers and/or other compounding or modifying ingredients. (Page 2, lines 45-49)

Johnson discloses exemplary vulcanized rubber including natural rubber, synthetic polymers of rubber copolymers derived from alkadienes or mixtures thereof that can be obtained from thermoset rubber articles, wherein the polyolefin resin is a solid, high molecular weight polymeric material made by polymerizing one or more olefinic monomers in a conventional manner; and wherein the olefins can be ethylene, propylene, butene, 1-pentene, 2-methyl-1 propene, or mixtures thereof. Preferred polyolefin resins are polyethylene, polypropylene or copolymers of two or more olefins, such as copolymers of ethylene and propylene. (Page 2, line 61 to page 3; line 3; Examples 1-3) The functionalized olefin polymer for component (c) is a copolymer of at least one olefin and one or more ethylenically unsaturated organic monomers, such as ethylene, propylene, butylene, butadiene, and isoprene, hydrogenated butadiene or isoprene, wherein the organic monomers are selected from unsaturated mono or dicarboxylic acids of 3-20 carbon atoms and their derivatives such as acid anhydrides; maleamic acids; acid halides; esters; metal salts; vinyl esters of saturated carboxylic acids where the acid group has 2-18 carbon atoms, vinyl alkyl ethers wherein the alkyl group has 1-18 carbon atoms, vinyl or vinylidene halides, acrylonitrile, methacrylonitrile, and vinyl aromatic compounds. (Page 3, lines 4-25)

Moreover, Johnson discloses that this blend composition can be manufactured in a single operation or in a number of operational steps, such as charging at desired rates the vulcanized rubber particles; the functionalized olefin polymer; and the polyolefin

resin, with the necessary fillers and additives in a suitable mixer or extruder. Alternatively, the dispersive composition can be prepared by first separately mixing a blend of ground vulcanized rubber and polyolefin resin; and melt mixing it together with the functionalized olefin polymer at a temperature high enough to soften the polymers. (Page 3, lines 31-40) The relative proportions of the vulcanized rubber particles, polyolefin resin and the functionalized olefin polymer depend upon the type and molecular weight of the rubber, polyolefin resin and functionalized olefin polymer, and the presence of other ingredients in the composition. However, the composite blend can contain1 to 90 parts by weight of ground vulcanized rubber and 90 to 1 parts of the polyolefin resin. (Page 3, lines 57)

Moreover, the blend composition disclosed in Johnson is melt-processible using conventional plastic processing equipment forming shaped articles from these compositions molded therefrom providing moldable, rigid thermoplastic compositions exhibiting improved impact resistance. Among the shaped articles/uses that the composite dispersion is applicable for are automotive parts, anti-skid surfaces, reinforced hoses, coating fabric, industrial belts and various hard surfaces by extrusion coating. (Page 3, line 58 to page 4, line 18)

Although Johnson may not expressly disclose all the physical properties recited in the claims, however, because the composite dispersion in Johnson is encompassed by that recited in instant claims, then both sets of composite dispersions and articles comprising thereof would inherently be expected to have the same chemical/physical

properties, such as orbital interaction energy coefficient and the internal dispersion structure recited in claim 21.

Therefore, the instant claims are anticipated by Johnson.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 6 and 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of the Japan Abstract of Japanese Application Publication No. JP 04-008054 to Teruo et al., hereinafter 'Teruo', (cited by Applicant in an IDS)

Johnson was discussed above. Johnson does not disclose the composite dispersion comprising a polyphenylene-ether resin.

However, Teruo teaches a polyphenylene ether based resin that provides a cured material with excellent chemical resistance, dielectric properties and insulation

properties. This polyphenylene ether based resin composition is taught by Teruo can be used in cured products and films, particularly in laminated materials.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time that the claimed invention was made to add a polyphenylene ether based resin to the composite dispersion material disclosed in Johnson. It would have been obvious to one skilled in the art to do so to attain a resultant dispersion composition, and shaped article/laminates formed therefrom, having the enhanced chemical resistance; dielectric; and insulation properties taught by Teruo.

Thus, the claims are unpatentable over Johnson and Teruo.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Monday-Thursday 8:00-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796